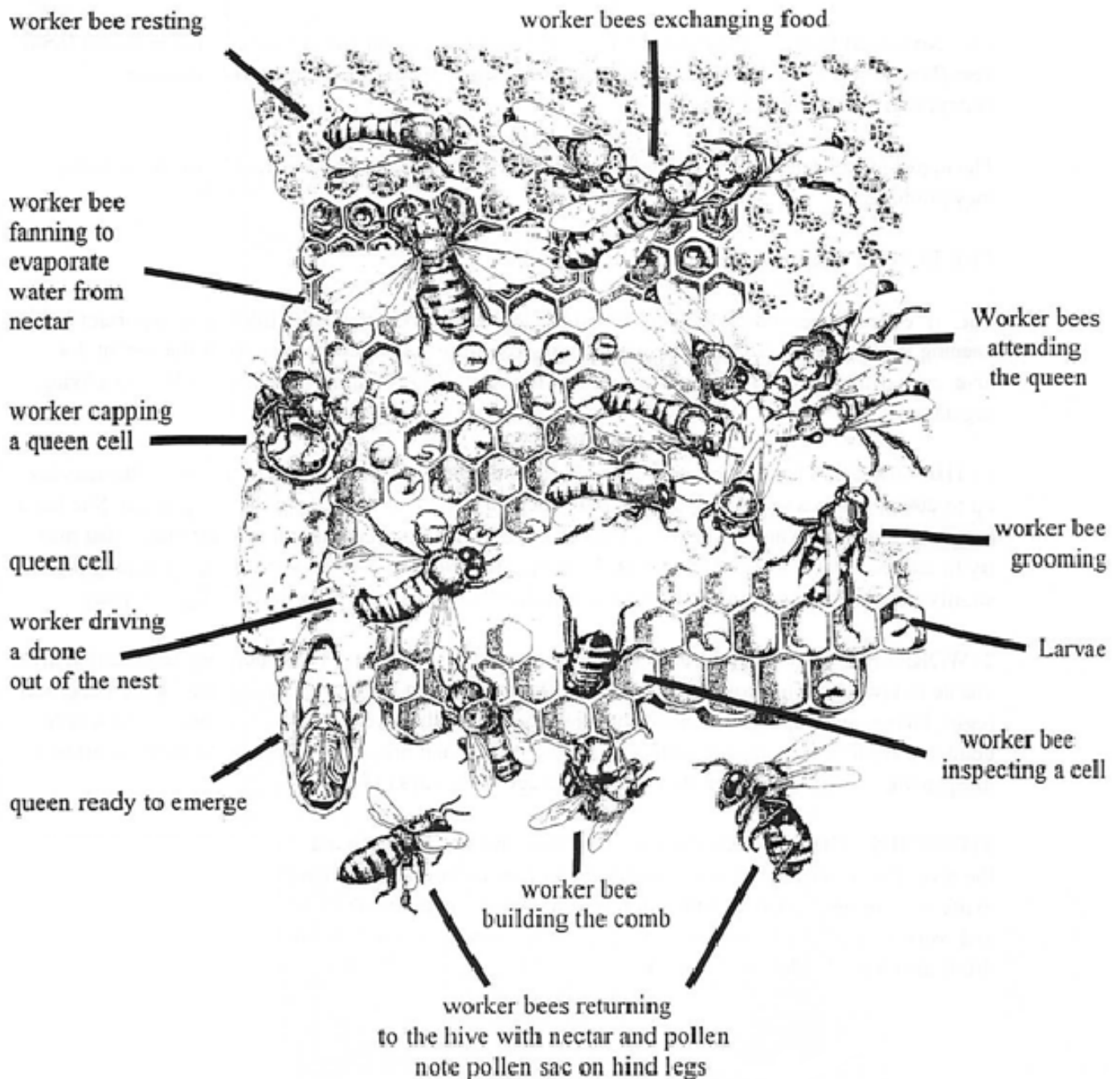


# BEHAVIOR EASILY OBSERVED IN THE DEMONSTRATION BEEHIVE

In the observation beehive located in the barn, there are three frames, stacked one on top of the other, called **supers**. The upper-most super contains capped honey and uncapped nectar and pollen, while the middle and bottom supers contain eggs, larvae, and capped brood. Most of the bees seen in the hive are female worker bees. The male bees, called drones, are larger and much fewer. Their sole role is to be ready to mate with a new queen should one arise. The one queen bee is larger and more slender than the other bees. The beekeeper often marks her with a colored dot in order to make it easier to spot her. Her role is lay eggs which she does almost continuously.



## The Observation Beehive

This hive is designed to let you see the activities of honey bees within the hive. The hive has only one layer of honeycomb allowing you to see both sides of the comb and making it difficult for any of the bees to hide from you. A standard beehive would have at least ten times as many frames as this hive, having up to 50,000 bees living inside, and might produce more than 100 pounds of honey a year.

The three wooden frames you see provide support for the construction of the honeycomb and encourage the bees to build their comb in an orderly way, making it easier for the human beekeeper to inspect the hive and harvest the excess honey.

The two lowest frames, called brood frames, are where the queen will lay most of her eggs and larval bees (brood) will be reared. The comb in the brood frame tends to become darker than the honeycomb in the frame above.

The upper-most frame (called a super) contains the comb where the bees store most of the honey they produce.

### THE HONEYBEE

There are three types (castes) of bees found inside the beehive. Each has a job that is important in keeping the hive alive. No single bee can survive for more than a few days without the rest of the hive, even if they have all the food and water they need. You can think of the whole hive as a living organism or *superorganism*.

1) **QUEEN.** There is only one queen in each hive and her main duty is to lay eggs. She lays approximately 1500 eggs in a single day, placing only one egg in each of the cells of the honeycomb. She has a longer abdomen than any of the other bees and does not sting except to kill another queen that may try to take her place. The queen spends her entire life inside the hive except during her mating flight, shortly after emerging as an adult. Most queens live to one year but may live as long as 3 years.

2) **WORKERS.** Almost all the bees you see in the hive are workers. These bees are females that are unable to lay eggs. The workers do all the work performed in the hive including: caring for the brood (eggs, larvae, and pupae), tending to the queen, guarding the hive from invasion, producing wax to build and repair the comb, and collecting nectar, pollen, and propolis to store in the hive. Worker's lifespan varies with season but they live an average of ~ 42 days.

3) **DRONES.** The drones are the male honeybee and are usually found in very low numbers within the hive. The drones do no work, are unable to feed themselves, and have no stinger. Their only duty in life is to be ready to mate with a new queen. Drone's eyes are much larger than those of the queen and workers, possibly to help them find the new queen when she flies from a hive to mate. The drone also has a louder buzz than the worker. Drones live ~ 56 days.